

## AMENDED ABSTRACT

Alignment parameters determination method with less overlay error after exposure without tremendous expending time and cost is provided. Provision is made of a fetching unit 610 performing position measurement ~~for measurement points set for each of any shots through opto-electric detection and statistical processing based on the measured positions and design positions of said measurement points to obtain reference computation results, a results.~~ Another fetching unit 640 ~~obtaining~~obtains reference processing results ~~obtained~~ by positioning and exposing the shots at a predetermined exposure apparatus based on the reference computation results, then measuring overlay error for ~~said shots, a~~ the shots. Another fetching unit 620 ~~changing~~changes at least parts of the predetermined alignment parameters and ~~performing~~performs position measurement ~~for measurement points set for each shot and statistical processing based on the measured positions and design positions of said measurement points to obtain comparative computation results, and a results.~~ A controller 650 ~~calculating~~calculates estimated overlay error when assuming positioning and exposure of shots at a predetermined exposure apparatus based on the comparative computation results using the reference computation results, comparative computation results, and reference processing results.